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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,874

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EXAMINER

BADR, HAMID R

ART UNIT

PAPER NUMBER

1794

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11/12/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,874	Applicant(s) KAEHNE, IAN DAVID	
	Examiner HAMID R. BADR	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment filed 6/29/2009 is acknowledged.

The objection to claims and rejections under 35 U.S.C. 112 second paragraph are hereby withdrawn due to amendments.

New ground of rejection is set forth below due to amendments.

Claims 1-35 are being considered on the merits.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 9 is indefinite for "wherein the diluted beer is a full strength beer". It is noted that full strength beer is a beer with maximum alcohol content for the type of beer and that a full strength beer can not be diluted beer. It is unclear what is meant by the phrase. It is not clear what the applicant regards as the invention.

4. Claim 29 is indefinite for "wherein dilution of the base beer is between 0.5% and 5% the mineral additive is added after...". It is not clear what is meant by this phrase. It is unclear what the applicant regards as the invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donhowe (US 2003/0157218; hereinafter R1) in view of Costa (WO 01/68534; hereinafter R2) and Lindon et al. (US 5,786,006; hereinafter R3)

3. R1 discloses a process for the preparation of a sport beer or malt beverage that has enhanced nutrition in comparison to the existing beer or malt beverage. The beverage comprises a beer or malt beverage that contains supplements such as minerals, vitamins, anti-oxidants, proteins etc. (Abstract).

4. R1 discloses the process for the production of the sport beer as consisting of a brewing process wherein barley malt grain is milled, mixed with hot water, and carbohydrates are saccharified and fermented using yeast. After the fermentation by yeast, the yeast is separated and lagering or the maturation of the beer is carried out. The beer is transferred to a finishing tank where supplements such as calcium, zinc and/or iron are added. The supplements such as minerals or proteins or antioxidants are dissolved in water prior to the addition to the beer. [0017].

5. Given that the minerals or other supplements are dissolved in water before adding to the beer, it is clear that the beer will be diluted as presently claimed.

Art Unit: 1794

6. Given that the supplements are dissolved in water, it is clear that any dilution of the beer can be effectuated by those of skill in the art. The presently claimed dilution of 0.5% to 90% of the original strength of the beer is obvious.

7. Additionally R1 claims a beverage having 0.45%-10% alcohol (R1 Claim 2). It is obvious that such a beer can represent the dilutions as presently claimed.

8. Given that R1 discloses the process for making the original beer, it is obvious that any kind of beer such as stout beer, pilsner beer, light beer, extra light beer, medium strength beer etc. can be diluted and then formulated with the minerals and other supplements.

9. The pH range of 3.5-5.0 is intrinsic to all beers. It is obvious that the pH of the diluted beer will be adjusted to preserving the taste of the beer and also for the preservation of the beer. The variability of pH in different beer types is also known to the people of skill in the art. The low pH of the product will also help the solubility of minerals in the diluted beer.

10. While R1 clearly is motivating for the supplementation of beer or malt beverages, it is silent regarding the groups of minerals as presently claimed.

11. R2 discloses additives for drinks and potable water. (Title and Abstract)

12. R2 discloses that the additive which could be solids, liquids etc can be dissolved into drinks including beers and wines (page 2, Definition).

13. R2 discloses the mineral additives to include calcium 0-300 mg, Chlorine 0-60 mg, fluor 0-4 mg, chromium 0-50 microgram, iron 0-40 mg, phosphorus 0-300 mg, idodine0-300 microgram, magnesium 0-200 mg, manganese 0-5 mg, potassium 0-80

Art Unit: 1794

mg, selenium 0-50 microgram, sodium 0-150 mg, zinc 0-30 mg, copper 0-4 mg, gold 0-20 microgram, silver 0-20 microgram, tin 0-20 microgram, molybdenum 0-50 microgram, nickel 0-10 microgram, silicium 0-20 microgram, vanadium 0-20 microgram. (pages 13-15). The amounts are based on the daily human consumption. Therefore, a serving size can be designed to supply for instance 150 mg of calcium for a daily consumption.

14. It is also noted that heavy metals are also found in natural waters in part per billion (ppb) concentrations. The concentration of such elements in municipal and industrial waters can be found in water analysis reports. Any adjustments due to dilutions can be made accordingly by an artisan.

15. Given the spectrum of minerals, which can be added to beer, as disclosed by R2 and considering the fact that dilution of beer with water, to make low alcohol beer, will decrease the concentration of minerals, the addition of mineral additives to a diluted beer would have been obvious to one of ordinary skill in the art. On the other hand, the determination of the concentration of minerals in an undiluted beer is routine in the art. Therefore, determining how much of each element is present in an undiluted beer would have been obvious as well. The problem to be solved is then adding the mineral type, relative to a specific type of beer, to the diluted beer to bring up the concentration of that element to the undiluted level. The mineral profile of certain beer types are known in the art, therefore, adding the mineral whose concentration is decreased due to diluting the beer is obvious.

Art Unit: 1794

16. Since the common forms of these chemicals is the dry form, it is obvious to use the dry form as presently claimed. It is also obvious that calcium and magnesium compounds should be brought into solution if compounds are not water soluble as presently claimed. It is obvious that carbonated beverages are produced using carbon dioxide as presently claimed. The form of mineral supplements which can be used in human nutrition are also known in the art.

17. The solubility of the minerals in water and in the presence of other chemicals may necessitate the inclusion of acids and buffers as presently claimed. It would be obvious to those of skill in the art to include acids either organic or inorganic as well as buffers to sustain the solubility of the added minerals in the beer or beverage. It would also be obvious to use acids such as phosphoric acid both for dissolution of minerals and for the organoleptic properties of this acid. Use of phosphoric acid in regular beverages is known in the art of beverages. Further, inclusion of buffering salts such as potassium phosphate and potassium hydrogen phosphate in low alcohol beers is known in the art. The addition of potassium phosphate and potassium hydrogen phosphate to a diluted beer is specifically known to enhance flavor of the beer.

18. R1 and R2 are silent regarding the incorporation of lithium into the beverage.

19. R3 discloses incorporating lithium at 0.06-0.15 mg/L of mineral water (Abstract).

20. R1 clearly gives the motivation for adding supplements including minerals to the beer with reduced alcohol (diluted beer). R2 also gives the details of the type and concentration of minerals which can be added to drinks including beer and wine. Since diluting any beer (for the sake of lowering alcohol content) will cause a decrease in the

Art Unit: 1794

concentration of constituting minerals in a specific volume of the product, it would be obvious to those of skill in the art to add the minerals as taught by R1 and R2 and R3. One would do so to compensate for the effect of diluting a drink such as beer on the taste and mouthfeel. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in creating a diluted beer containing minerals.

Response to Arguments

Applicants' arguments have been thoroughly reviewed. These arguments are not persuasive for the following reasons.

1. Applicants argue that R1 discloses adding minerals to diluted beer for the sake of health benefits and that the presently claimed invention regards the inclusion of minerals for enhancing taste.

a. R1 discloses the addition of minerals such as calcium, zinc, and/or iron to diluted beer (0.45-10% alcohol, R1, claim 2). Therefore, the compensation for taste due to these elements is intrinsic in the process as disclosed by R1.

Further, obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation", *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1966).

b. It is very obvious that when beer is diluted with water to reduce the alcohol strength, all compounds contributing to flavor will be diluted. The minerals in the beer

Art Unit: 1794

are therefore diluted. As it was mentioned in the grounds for rejection, mineral profile for certain beers are either already known or can be routinely determined by an artisan.

Therefore, to make up the diluted mineral to the level of undiluted beer is obvious to an artisan.

2. Applicants argue that R1 fails to teach a diluted beer made by the method of claim 1.

a. R1 certainly discloses and claims diluted beers. Claim 2 in R1, claims beers containing 0.45-10% alcohol by volume. This is definitely a diluted beer. However, claim 1 and the dependent claims are being rejected in an obviousness type rejection. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

3. Applicants argue that nowhere in the references can be found the teaching of enhancing the flavor or taste of a beer.

a. The mineral content and characterization of various types of beer based on the mineral profile is known in the art. On the other hand, US patent 4,788,066 clearly discloses that potassium phosphate and potassium hydrogen phosphate can be used to enhance the flavor of low alcohol (diluted beer). (col. 1, lines 56-60). This reference is also referred to in the instant specification. Therefore, the mineral profile of beers and the enhancing properties of certain salts was known at the time the invention was made.

Art Unit: 1794

4. Applicants argue that there are strong preferences in the source of elements that form part of the present invention. The minerals must be provided as a soluble salt and the combination of minerals must not create imbalances.

a. The selection of soluble salts and their interaction are within the skill of an artisan.

5. Applicants, again in trying to attack an individual reference, argue that considering the teachings of R2, one is left uncertain as to what compounds are actually required.

a. Since the mineral profiles of beer types are either known or can be established very accurately, determining what minerals exist in beer and how much of each mineral can be added after diluting the beer is well within the skill of the art.

6. Applicants argue that there is clearly no suggestion in R2 to provide minerals in particular proportions that co-act to provide a balanced taste.

a. It appears that the Applicants are assuming that the beer taste is only due to mineral content. It should be realized that there are numerous factors determining the taste of a particular beer including the minerals. As it was mentioned, the mineral profiles for certain types of beer are known or can be determined by those of skill in the art. Therefore, establishing the mineral types and proportions would have been obvious to those of skill in the art.

7. Applicants argue that in the absence of teaching by R2, that producing the mineral additive according to the present invention would always provide the capacity to dilute beer by compensating somewhat for the reduction and disruption of flavor and

Art Unit: 1794

taste characteristics (profiles) commensurate with the dilution, there was no reason why Applicants or one skilled in the art following R2 teaching, will conclude with the present invention.

a. Determining the mineral components of undiluted beer was known at the time of the invention, and given that diluting a beer will decrease the concentration of minerals, it would have been obvious to make up for the diluted minerals by adding minerals to the diluted beer.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,788,066 discloses the addition of potassium phosphate and potassium hydrogen phosphate to low alcohol beer to enhance flavor.

Alcazar, A. et al. 2002. Multivariate characterization of beers according to their mineral content. *Talanta*. 57:45-52.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1794

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1794

/Keith D. Hendricks/
Supervisory Patent Examiner, Art Unit 1794